

## REMARKS

The above-identified application is United States application serial number 10/713,515 filed on November 11, 2003. Claims 1-12 and 29-39 are pending in the application. Claims 1-12 and 21-39 are rejected under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over the publication entitled "Sonic Boom Minimization With Nose-Bluntness Relaxation" by Christine M. Darden, NASA Technical Paper 1349, pp. 1-51 (NASA 1979). Applicant respectfully traverses these rejections and submits that the features set forth in the claims are not disclosed, suggested, obvious, or inherent in view of the Darden reference.

### *The Darden Reference*

Darden discloses a method for compromising between sonic boom levels and prohibitive drag penalties by defining the proper ratio of the length of the conical nose region of the equivalent area distribution ( $y_f$ ) to the overall length of the aircraft ( $l$ ). (See Darden, p. 31). Darden's analysis teaches relaxing the bluntness of the nose to reduce drag. (Darden, Introduction). This is achieved by controlling the bluntness of the area distribution, and thereby the drag of the configuration. (Darden, p. 5). Such description in Darden does not anticipate or make obvious the features set forth in the claims, however.

### *Rejection of Claims Under 35 USC 102(b)*

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "In determining that quantum of prior art disclosure which is necessary to declare an applicant's invention 'not novel' or 'anticipated' within section 102, the stated test is whether [t]he disclosure...provide[s] an enabling disclosure of the desired subject; mere naming or description of the subject matter is insufficient, if it cannot be produced without undue experimentation." MPEP § 2121.01.

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In the present instance, Darden does not discuss the features included in the present claims. Further, these features would not have been known to one skilled in the art without undue experimentation, and therefore the claims are not enabled or anticipated by Darden. For example, there is no detail or even any suggestion in Darden to scale an equivalent area distribution curve of the aircraft to approximate an ideal equivalent area distribution goal curve, or scaling an equivalent area distribution goal curve to maintain the desired aircraft weight while countering excursions below the equivalent area distribution goal curve, as set forth in Claims 1 and 29, respectively.

There is also no teaching or even a suggestion in Darden to relax a design constraint to require the equivalent area distribution curve of the aircraft to be at or below the equivalent area distribution goal curve as set forth in independent Claim 1. Darden only teaches how to determine the equivalent area distribution that produces minimum-overpressure or minimum shock signature. (Darden, p. 14). The Examiner points out that the ideal equivalent area distribution goal curve is what one skilled in the art would want. (Office Action, p. 2). Accordingly, Applicant submits that one skilled in the art would not be motivated to allow the configuration of an aircraft to depart from the goal curve.

Claims 2-12 and 22-39 depend from Claims 1 and 29, respectively, and include features that further distinguish them from the cited reference. There is nothing in Darden that teaches or suggests the features in the claims would have been known or discovered even by one skilled in the art. The standard for anticipation requires that one skilled in the art could combine the publication's description of the invention with his own knowledge to make the claimed invention at the time the application was filed. MPEP § 2121.01. The Examiner has not provided any support for the premise that the features set forth in the claims were known or would have been obvious to one skilled in the art. Further, the Darden reference does not enable the features set forth in the present claims as required under the standard set forth in MPEP § 2121.01. Accordingly, withdrawal of the rejection of Claims 1-12 and 29-39 as being anticipated by Darden is respectfully requested.

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***Rejection of Claims Under 35 USC 103(b)/Inherency***

"To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations." MPEP § 2143. In the present case, Darden does not teach or suggest all the claim limitations, as highlighted above in the discussion of the rejections of the claims under 35 U.S.C. 102(b), nor is there any motivation or suggestion provided in the prior art to modify the teachings of Darden to provide the claimed features. Thus, Darden does not anticipate or make obvious the features set forth in the claims.

Further, the features set forth in the Claims are not inherent. "To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.'" *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999). The term "inherent" is defined as "existing in someone or something as a natural and inseparable quality, characteristic, or right; innate; basic; inborn." Webster's New World Dictionary, Third College Edition, (Simon & Schuster, 1988). Applicant fails to understand how any of the features set forth in Claims 1-12 and 29-39 are inherent to the Darden disclosure. Such features are not shown or described in Darden, and were not known to one skilled in the art at the time the invention was made.

For example, Claim 29 requires "redistributing lift of a wing by configuring the wing with areas of far-field expansion ahead of areas of far-field compression. Darden is only concerned with the shape of the nose bluntness and does not even mention expansion and compression areas on the wing. Rather, Darden confines configuration changes to the fuselage forebody to determine the tradeoff between drag penalty and sonic boom disturbances. (Darden, p. 13).

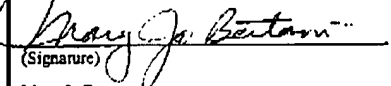
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***Request for Further Rationale of Rejections***

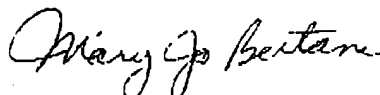
The Examiner did not cite specific portions of Darden to support his rejection of the claims. Applicant respectfully requests further explanation and citations to relevant portions of the references to support the Examiner's position for each claim if the claims are still determined to be anticipated, obvious, and/or inherent.

**CONCLUSION**

In view of the remarks set forth herein, Applicant believes Claims 1-12 and 29-39 are in form for allowance and a notice to that effect is solicited. In the event it would facilitate prosecution of this application, the Examiner is invited to telephone the undersigned at (949) 251-0250.

I hereby certify that this correspondence is being facsimile transmitted to the USPTO, Central Number at (703) 8729106 on the date shown below:	
	
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Respectfully submitted,



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